

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Babak Fakharpour

GENERAL INFORMATION:

Name:	AK Steel-Ashland Works-Coke Plant
Address:	400 East Winchester Avenue Ashland, Kentucky 41105-0191
Date application received:	12/13/1996
SIC Code/SIC description:	3312, Metallurgical Coke Production
Source ID:	21-019-00027
Source A.I. #:	43192
Activity ID:	APE20040001
Permit:	V-07-036

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
<input type="checkbox"/> Administrative	<input checked="" type="checkbox"/> Title V
<input type="checkbox"/> Minor	<input type="checkbox"/> Synthetic minor
<input type="checkbox"/> Significant	<input checked="" type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input checked="" type="checkbox"/> PSD	<input checked="" type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☐ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☒ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM/PM ₁₀	1641	1641
SO ₂	1179	1179
NO _x	1219	1219
CO	474	474
VOC	700	700
Ammonia	194	194
Benzene	8	8
Toluene	2.7	2.7
Xylene	0.9	0.9
Hydrogen Cyanide	1.3	1.3
Coke Oven Emissions	20	20
Source wide HAPs	227	227

SOURCE DESCRIPTION:

AK Steel Coke plant, is a by-product, coke production facility located at 400 East Winchester Avenue in Boyd County, Kentucky.

Coal is unloaded from railcars, transferred from storage, mixed, crushed, and charged to the coke ovens via belt conveyors and larry cars. The coke oven battery #3 is made up of a row of 76 individual ovens that are 4 meters high. Coke oven battery #4 has 70 ovens and 5 meters tall. In the coking process, coal is cooked, driving off volatile compounds from the coal as gases, to form carbon-rich coke. The byproduct gases are recovered and then the clean coke oven gases are used as fuel for heating the coke ovens and boilers.

Coal is charged through the three charge holes on the top of each oven by a technique called “staged charging”. When the conversion of coal to coke is complete, the oven is disconnected from the gas collecting main and the coke is pushed out of the “coke side” of the oven into a rail car. The rail car with the hot coke is moved to the quench area where the hot coke is flooded with water.

There are other secondary activities at the source that include storage tanks, and waste water treatment plant to treat the weak ammonia liquor generated from the coke by-product plant and recycle acid gas back to the sulfur recovery unit.

The facility is a Title V major source of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, and HAP emissions. This source is located in an attainment area for all pollutants except for Ozone (8 hour) and PM_{2.5}.

EMISSIONS AND OPERATING CAPS DESCRIPTIONS:

EPA’s June 8, 1977, Pre-Construction Review and Final determination includes 113 tons coal charged/hr based on a 24-hour average, as a condition for battery #4 also, BACT to be used to limit emissions of sulfur dioxide and particulate matter.

OPERATIONAL FLEXIBILITY:

None